



A Touchstone Energy Cooperative

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APR 01 2011

PUBLIC SERVICE
COMMISSION

April 1, 2011

Jeff Derouen, Executive Director
Kentucky Public Service Commission
PO Box 615
Frankfort, KY 40602

RE: **ELECTRIC DISTRIBUTION UTILITY ANNUAL RELIABILITY REPORT**

Enclosed is Blue Grass Energy's Annual Reliability Report for 2010. If you have any further questions, please feel free to contact me.

Sincerely,

A handwritten signature in cursive script that reads "Chris Brewer".

Chris Brewer, Vice President Engineering

Electric Distribution Utility Annual Reliability Report

SECTION 1: CONTACT INFORMATION

UTILITY NAME	1.1	<u>Blue Grass Energy</u>
REPORT PREPARED BY	1.2	<u>Chris Brewer</u>
E-MAIL ADDRESS OF PREPARER	1.3	<u>chrisb@bgenergy.com</u>
PHONE NUMBER OF PREPARER	1.4	<u>859-885-2114</u>

SECTION 2: REPORT YEAR

CALENDAR YEAR OF REPORT	2.1	<u>2010</u>
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SECTION 3: MAJOR EVENT DAYS

TMED	3.1	<u>11.5</u>
FIRST DATE USED TO DETERMINE TMED	3.2	<u>1/1/2005</u>
LAST DATE USED TO DETERMINE TMED	3.3	<u>12/31/2009</u>
NUMBER OF MED IN REPORT YEAR	3.4	<u>1</u>

NOTE: Per IEEE 1366 TMED should be calculated using the daily SAIDI values for the five prior years. If five years of data are not available, then utilities should use what is available until five years are accumulated.

SECTION 4: SYSTEM RELIABILITY RESULTS

Excluding MED

SAIDI	4.1	<u>118.6</u>
SAIFI	4.2	<u>1.150</u>
CAIDI	4.3	<u>103.1</u>

Including MED (Optional)

SAIDI	4.4	<u> </u>
SAIFI	4.5	<u> </u>
CAIDI	4.6	<u> </u>

Notes:

- 1) All duration indices (SAIDI, CAIDI) are to be reported in units of minutes.
 - 2) Reports are due on the first business day of April of each year
 - 3) Reports cover the calendar year ending in the December before the reports are due.
 - 4) IEEE 1366 (latest version) is used to define SAIDI, SAIFI, CAIDI, and TMED
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Electric Distribution Utility Annual Reliability Report

SECTION 5: OUTAGE CAUSE CATEGORIES

Excluding MED

CAUSE CODE DESCRIPTION		SAIDI VALUE	CAUSE CODE DESCRIPTION		SAIFI VALUE
Lightning	5.1.1	30.40	Power Supplier	5.2.1	0.32
Power Supplier	5.1.2	21.41	Lightning	5.2.2	0.23
Equipment Fault	5.1.3	19.68	Equipment Fault	5.2.3	0.15
Unknown	5.1.4	13.04	Unknown	5.2.4	0.13
Wind-not trees	5.1.5	7.81	Small Animal S.C.	5.2.5	0.05
Deterioration	5.1.6	5.41	Public Accident	5.2.6	0.05
Public Accident	5.1.7	4.57	Wind-not trees	5.2.7	0.05
Small Animal S.C.	5.1.8	3.89	Deterioration	5.2.8	0.04
Ice/Snow-not trees	5.1.9	1.13	Maintenance	5.2.9	0.02
Birds	5.1.10	1.00	Birds	5.2.10	0.02

SECTION 6: WORST PERFORMING CIRCUITS

CIRCUIT IDENTIFIER		SAIDI VALUE	MAJOR OUTAGE CATEGORY
Davis 114	6.1.1	493	Equipment Fault
Lees Lick 134	6.1.2	489	Lightning
ClayLick 124	6.1.3	378	Equipment Fault
Newby 124	6.1.4	357	Wind not trees
Bracken 104	6.1.5	340	Wind not trees
Bridgeport 124	6.1.6	333	Power Supplier
Ninevah 144	6.1.7	317	Deterioration
Bracken 114	6.1.8	305	Lightning
West Nicholasville 144	6.1.9	303	Lightning
Cynthiana 134	6.1.10	296	Lightning

CIRCUIT IDENTIFIER		SAIFI VALUE	MAJOR OUTAGE CATEGORY
Bridgeport 124	6.2.1	0.058	Power Supplier
Bracken 114	6.2.2	0.054	Lightning
Bridgeport 114	6.2.3	0.053	Power Supplier
S. Jessamine 114	6.2.4	0.039	Lightning
Clay Lick 124	6.2.5	0.035	Equipment Fault
West Nicholasville 144	6.2.6	0.031	Lightning
Lees Lick 134	6.2.7	0.030	Lightning
Van Arsdell 134	6.2.8	0.030	Equipment Fault
Bridgeport 144	6.2.9	0.030	Power Supplier
Colemansville 104	6.2.10	0.024	Trees - Non ROW

Blue Grass Energy

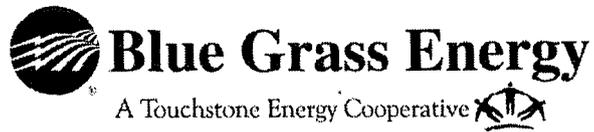
	SAIDI					CAIDI	SAIFI
	All	MED	PS	Sched	Other	All	All
2001	111.5	23.7	1.6	2.1	84.1	83.0	1.34
2002	156.7	33.0	16.4	0.9	106.4	105.6	1.48
2003	1133.2	1033.4	8.4	0.9	90.5	504.5	2.25
2004	310.9	162.0	43.8	0.4	104.7	158.8	1.96
2005	108.6	0.0	15.9	0.7	92.0	91.1	1.19
2006	124.4	0.0	0.6	2.5	121.2	113.5	1.10
2007	147.1	41.5	6.4	2.9	96.4	120.2	1.22
2008	169.4	67.3	11.8	1.1	89.2	141.3	1.20
2009	2175.1	2068.1	5.2	4.2	97.7	1205.3	1.80
2010	133.9	15.3	21.4	0.8	96.5	108.1	1.24
2003-2007 avg.	364.8	247.4	15.0	1.5	101.0	197.6	1.54
2004-2008 avg.	172.1	54.1	15.7	1.5	100.7	125.0	1.33
2005-2009 avg.	544.9	435.4	8.0	2.3	99.3	334.3	1.30
2006-2010 avg.	550.0	438.4	9.1	2.3	100.2	337.7	1.31

Major Event Days

2005	2006	2007	2008	2009	2010
None	None	4/3/2007 8/16/2007	2/6/2008 6/10/2008	1/27-2/03/09 2/11/2009 5/8/2009 6/11/2009	5/27/2010

Years over which data used

Year T _{MED} used for	T _{MED}
2000-2004	2005 10.61
2001-2005	2006 11.40
2002-2006	2007 12.69
2003-2007	2008 12.09
2004-2008	2009 10.74
2005-2009	2010 11.50
2006-2010	2011 11.46



DISTRIBUTION RIGHT-OF-WAY VEGETATION MANAGEMENT 2011 PLAN/ 2010 PLAN REVIEW

February 2011

**Prepared by
Environmental Consultants, Inc.
520 Business Park Circle
Stoughton, WI 53589**

Blue Grass Energy Vegetation Management Plan

2010 Review of Plan Implementation

Blue Grass Energy developed a formal plan to manage the maintenance of vegetation on distribution rights-of-way (ROW) in 2007/2008. The plans goals were established to provide excellent member service, maintain current tree related reliability, and look for opportunities to increase production and reduce program cost. These plans were continued and improved into 2010.

As stated in the previously submitted Vegetation Management Plan, the plan may be modified from time-to-time based on performance as measured by tree-related service reliability and evaluations of member satisfaction with service reliability. Specific reliability metrics may include Tree SAIFI, trends in customer minutes interrupted by tree-related causes and tree-caused primary interruptions per 100 line miles as internal benchmarks of program performance over time. A Tree-Caused Outage Report summarizes these reliability criteria and is regularly reviewed and monitored daily. Upon reporting of tree related outages a field investigation is conducted to determine the root cause.

2009-2010 Vegetation Management Strategy

SCHEDULED MAINTENANCE AND CLEARANCE

Blue Grass Energy provides electric service to over 55,000 members through a network of over 4,500 miles of distribution line. Blue Grass Energy uses a cyclic approach to preventive electric distribution ROW. Different circuits or portions of circuits may be scheduled on different cycles based on site conditions, sensitivity of the line to interruptions caused by trees or criticality of the line. The maintenance cycle for tree removal, tree pruning or brush control may be the same or different for a given scheduling unit.

As illustrated in Table 1, Blue Grass Energy completed 21 distribution circuits in 2010 for a total of 684 miles of distribution line. In 2011, there are 32 distribution circuits scheduled for a total of 874 miles. The varying site conditions determine the cost and cause completed miles to vary by year.

Table 1. Blue Grass Energy R/W Miles Scheduled vs. Completed

Maintenance Year	2008	2009	2010	2011
Scheduled	704	700	678	874
Completed	741	730	684	TBD

HISTORICAL EXPENDITURES

Historical Blue Grass Energy program costs for ROW maintenance are presented in Table 2. Expenditures for ROW maintenance were \$2,437,175 in 2009. The 2010 expenditures of \$2,733,799 represents an 11% percent increase over 2010 expenditures.

Table 2. Historical Vegetation Management Budget/ Expenditure Information
Vegetation Management Information

	<u>2009</u>	<u>2010</u>	<u>2011</u>
Total Budget	\$2,335,000	\$2,568,500	\$2,847,583
Total Actual	\$2,437,175	\$2,723,799	TBD
Trim Budget	\$1,917,806	\$2,061,922	\$2,326,032
Trim Actual	\$2,020,650	\$2,213,853	TBD
Miles	730	684	874
\$/Mile	\$2,627.13	\$3,014.51	\$2,661.36
Spray Budget	\$71,672	\$75,834	\$78,109
Spray Actual	\$71,672	\$75,834	TBD
Miles	695	709	
\$/Mile	\$103.13	\$106.96	

RELIABILITY

In 2008, Blue Grass Energy developed and implemented an outage investigation process to better understand the cause of tree failures. The data was again used in 2010 to identify species failure rates and help plan future scheduled and non scheduled work to eliminate potential outages. The investigation of all tree related outages will continue through 2011 to collect data on major outage categories.

Historical Blue Grass Energy tree caused outages are illustrated in Table 3.

Table 3. Number of Tree-Caused Outages on the Blue Grass Energy System

District	2003	2004	2005	2006	2007	2008	2009	2010
Nicholasville	27	40	21	30	66	29	32	24
Madison	49	61	18	21	39	63	64	26
Lawrenceburg	47	60	17	22	48	44	37	37
Harrison	<u>67</u>	<u>47</u>	<u>26</u>	<u>26</u>	<u>51</u>	<u>38</u>	<u>24</u>	<u>34</u>
TOTALS	190	208	82	99	204	174	157	121

2010 VEGETATION MANAGEMENT PLAN REVIEW

Changes were accomplished in 2010 to improve the ROW management plan. The “Distribution Right-Of-Way Vegetation Management Plan” submitted March 2010 outlined in detail the processes that were built into the plan.

Listed below are some of the new and continued process improvements in 2011:

1. Continuation of Formal Contractor Evaluation Program. Each contractor will be rated on nine qualitative categories such as customer complaints, quarterly mileage goals, exceptions/ omissions, quality/standards, tools/equipment, unscheduled interruptions/OSHA LWD, contractor cooperation & communication, crew professionalism, and data accuracy.
2. Yearly Revision of formal program policies and procedures and assurance of consistent implementation throughout the system to include additional detailed requirements.
3. Continued yearly revision of a general 5-6 year maintenance cycle for the system based on collected field data. In areas where standard clearances cannot be consistently achieved (e.g., subdivisions), mid cycle assessments will be conducted and cycles adjusted based on those findings. Recommended cycle lengths are guidelines.
4. Certified Arborist Utility Specialist supervisory personnel have adequate utility vegetation management technical expertise and a qualified assistant arborist is on staff.
5. Selective use of herbicides to control resprouting from the stumps of removed deciduous trees.
6. Written notification of property owners of the intent to prune trees and requirement of written permission for “yard” tree removals. We always strive to not allow property owners to influence pruning clearances.
7. Continuation of the separation of tree removals from the firm price mileage contract. This practice has promoted aggressive “problem” tree removal and helped ensure that per-mile unit price bids are accurate and cost effective. It also reduced the tendency of the contractor to avoid removals.
8. The crew labor and equipment complements were adjusted throughout the year to maximize cost effectiveness.
9. Revised and improved the formal work monitoring and completion process. Each circuit is individually and entirely audited by ROW supervisory personnel to ensure specifications for clearance and quality are achieved.
10. Records were maintained of key aspects of the ROW vegetation management program to document program performance. This data provides information necessary for ongoing program management and circuit scheduling.

2011 VEGETATION MANAGEMENT PLAN

Blue Grass Energy plans to partner with the following contractors for 2011:

- W. A. Kendall & Co.
- Asplundh Tree Expert Co.
- Trees, Inc.
- Osmose Utilities Services, Inc.

In addition to continuing the Distribution Right-Of-Way Vegetation Management Plans outlined for 2010 we intend to incorporate the following key objectives in the upcoming year:

- Continue to utilize Formal Crew Field Audit Evaluation process
- Uphold National Arbor Day Tree Line USA standards
- Continue to uphold ANSI A300 pruning and Z133 safety standards
- Continue to increase production and quality with established and new workforces
- Further inspection and reduction of unnecessary reactive maintenance

Appendix

ROW VEGETATION MAINTENANCE CLEARANCE CYCLE SCHEDULING STRATEGY

The following table summarizes the Blue Grass Energy ROW vegetation maintenance scheduling strategy. Individual circuits may be accelerated or deferred based on assessment of field conditions and operating performance.

Circuit Description	Primary Cycle Length (Years)	Mid-cycle Inspection/selective Tree Maintenance (Years)
Feeder Multi-phase	5-6	2 to 3
Feeder Laterals (single-phase)	5-6	